

**BEFORE THE
PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA**

IN RE: GENERIC PROCEEDING TO ADDRESS THE) DEFINITION OF "ABUSE OF MARKET POSITION") AND) GENERIC PROCEEDING TO DEFINE THE TERM) "INFLATION-BASED INDEX")	DOCKET NO. 2002-367-C DOCKET NO. 2002-408-C
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**RESPONSIVE TESTIMONY
OF**

WILLIAM E. TAYLOR, Ph.D.

ON BEHALF OF

BELLSOUTH TELECOMMUNICATIONS, INC.

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RESPONSIVE TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.

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ON BEHALF OF BELL SOUTH TELECOMMUNICATIONS, INC.
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BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
DOCKET NOS. 2002-367-C AND 2002-408-C
JULY 30, 2003

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION.

A. My name is William E. Taylor. I am Senior Vice President of National Economic Research Associates, Inc. ("NERA"), head of its Communications Practice, and head of its Cambridge office located at One Main Street, Cambridge, Massachusetts 02142.

Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS PROCEEDING?

A. Yes. I filed Direct Testimony in this proceeding on July 23, 2003. In my Direct Testimony, I explained how the South Carolina Public Service Commission ("Commission") should interpret and apply the term "abuse of market position" as it arises in §58-9-576(B)(5) of the Code of Laws of South Carolina Annotated ("South Carolina Code" or "Statute"). In that testimony, I also recommended that the Commission use the Gross Domestic Product Price Index ("GDP-PI") or, equivalently, the GDP price deflator as the "inflation-based index" as required for the alternative regulation of designated basic local exchange services under §58-9-576(B)(4) of the Statute.

II. PURPOSE AND SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR REPLY TESTIMONY?

A. At the request of BellSouth Telecommunications, Inc. ("BellSouth"), I address economic issues that arise in the Direct testimonies of Allen G. Buckalew, witness on behalf of the South Carolina Consumer Advocate, and Greg Darnell, witness on behalf of MCI WorldCom, Inc.

Q. PLEASE SUMMARIZE YOUR REPLY TESTIMONY.

A. Neither Mr. Buckalew nor Mr. Darnell proposes a definition of "abuse of market position." While Mr. Buckalew lists examples of behavior that he believes constitute abuse, I disagree with many of them.

- Pricing too high is an exercise of market power, not an abuse, and it is constrained by local competition, by entry, and by the price regulation plan.
- Pricing too low (exclusionary pricing) could theoretically be an abuse of market position but is unlikely to be profitable because the presence of resale means that competitors could never be driven from the market while the absence of entry barriers means that profits lost through exclusionary pricing could never be recouped. Exclusionary pricing is also ruled out for BellSouth by the Commission's incremental cost price floor.
- Bundling of services is ubiquitous among telephone companies and is generally proconsumer and procompetitive, as indicated in economic theory and as emphasized by the FCC.
- Tying services is similarly procompetitive and can only be anticompetitive (and harm consumers) when the firm possesses market power in the market for the tying product. This condition fails to hold in the examples cited by Mr. Buckalew.

Mr. Buckalew proposes to add a productivity factor to the inflation-based index called for by §58-9-576(B)(4) of the Statute. His citations to FCC price cap policy are

1 outdated, and use of a productivity factor in markets where competitive forces control
2 prices is unnecessary and likely to distort competition. While local exchange carrier
3 (“LEC”) productivity growth outstripped national productivity growth in the past, all
4 indications are that that relationship will not hold in the future: output growth has turned
5 negative for LECs, and LECs of all kinds have reduced investment to serve decreasing
6 demand for wireline services. Finally, further real reductions in basic residential local
7 exchange rates are counterproductive in South Carolina because current rates are below
8 estimates of current costs. Even if unit costs continued to fall at the historical rate cited by
9 Mr. Buckalew, residential local exchange rates could increase at the rate of inflation for
10 many years in most South Carolina communities before prices reached the level of costs.

11 **III. RESPONSE TO MR. BUCKALEW’S DIRECT TESTIMONY**

12 **A. Abuse of Market Position**

13 **Q. HOW DOES MR. BUCKALEW DEFINE “ABUSE OF MARKET POSITION?”**

14 A. He doesn’t define it directly. He discusses market concentration and market power [at 4-
15 5], exclusionary price behavior [at 5-6], and “other types of pricing behavior [that]
16 represent abuse of market power” [at 6-8]. Finally, he agrees [at 8-9] with Dr. Spearman’s
17 explanation of “abuse of market position.”

18 **Q. DO YOU AGREE WITH MR. BUCKALEW [AT 4-5] THAT FIRMS WITH** 19 **MARKET POWER HAVE THE ABILITY TO ADJUST PRICES UPWARDS TO** 20 **ACHIEVE EXCESSIVE PROFITS OR DOWNWARDS TO DRIVE** 21 **COMPETITORS OUT OF THE MARKET?**

1 A. Not quite. An *unregulated* firm that possesses market power can hold the market price
2 above its competitive level and earn supra-competitive profits. Alternatively, an
3 unregulated firm that has market power *may* find it profitable to attempt to drive actual or
4 potential competitors out of the market through exclusionary pricing. However, generally
5 speaking, competition protects consumers against a firm pricing its services above
6 competitive levels and antitrust laws protect consumers from the harm to competition that
7 may occur from exclusionary pricing (pricing too low, i.e., below cost).

8 **Q. HOW DO MR. BUCKALEW'S OBSERVATIONS ON ABUSING MARKET**
9 **POSITION BY PRICING TOO HIGH APPLY TO BELL SOUTH IN SOUTH**
10 **CAROLINA?**

11 A. They don't. First, telecommunications markets have been irreversibly opened to
12 competition in South Carolina, and this Commission has characterized competition for
13 local telecommunications services as "strong" and "widespread."¹ Thus, it is difficult to
14 understand how BellSouth could be assumed to have the ability to hold the market price for
15 telecommunications services above their competitive level. Moreover, the resale and
16 network unbundling provisions of the 1996 Telecommunications Act ensure that entry
17 barriers in the South Carolina local exchange markets are low or non-existent, so that any
18 attempt to hold the market price above the competitive level would attract entry, which
19 would bid down the price to competitive levels.

¹ S.C. PSC, *In re Application of BellSouth Telecommunications, Inc. to Provide In-Region InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996*, Docket No. 2001-209-C, Order Addressing Statement and Compliance with Section 271 of the Telecommunications Act of 1996, February 14, 2002, at 15, (continued...)

Second, setting prices above the competitive level by a firm possessing market power is an *exercise* of market power, not an *abuse* of market power. [Taylor Direct Testimony, at 9-10]. The explicit price regulation portion of the South Carolina price regulation plan is already in place to prevent BellSouth from *exercising* whatever market power it may possess.² Thus, in my opinion, the statutory concern about potential “abuse of market position” applies to anti-competitive acts, of which pricing too high is not one.

Third, Mr. Buckalew asserts [at 6] that pricing above a “reasonable” price level would constitute an abuse of market power, but he doesn’t tell us what a reasonable level might be. He suggests [at 6, line 16] that marginal cost might be such a standard. However, for telecommunications firms whose technologies exhibit a large proportion of fixed network costs, it is commonplace to observe competitive market prices far in excess of marginal cost. My Direct Testimony shows that current markups for residential long distance service are in excess of 100 percent of marginal cost and yet the market is effectively competitive.

Q. IS EXCLUSIONARY PRICING (I.E., PRICING BELOW COST) LIKELY TO BE A CONCERN IN SOUTH CAROLINA?

A. No. Because the local exchange market has been opened to competition, it is unlikely that

(...continued)

17.

² According to §58-9-576(B)(4) of the South Carolina Code, BellSouth cannot increase prices for a specific set of basic services for two years, after which prices for those services will be capped by an inflation-based index. In its *Guidelines Order*, following a previous stipulation, the Commission extended the price cap period to five years and expanded the set of basic services whose prices were to be capped. The *Guidelines Order* also limited price increases for other services to 5 percent per year.

1 an incumbent local exchange carrier ("ILEC") in South Carolina could find it profitable to
2 attempt to drive competitors out of the market through exclusionary pricing. As Mr.
3 Buckalew explains [at 5-6], the firm must expect to be able to drive competitors out of the
4 market and then increase prices above competitive levels to recoup lost profits. Without
5 barriers to entry, such recoupment would be impossible, and exclusionary pricing would
6 not be a profitable strategy.

7 Moreover, the structure of BellSouth's price regulation plan prevents such anti-
8 competitive exclusionary pricing. As discussed in my Direct Testimony [at 30-31],
9 BellSouth is required to price its other-than-basic services in accordance with a price floor
10 set at long run incremental cost. Thus, BellSouth cannot engage in anti-competitive,
11 exclusionary pricing irrespective of whether it has market power for those services or
12 whether such a pricing strategy could ever be profitable.

13 Finally, the Telecommunications Act of 1996 effectively prevents exclusionary
14 pricing for retail telecommunications services, irrespective of the level of competition in
15 South Carolina or the presence of its price floors. If BellSouth reduces the price of a retail
16 service in order to exclude or limit entry, it also must reduce the price it charges
17 competitors to resell the service. Thus, the margin that competitors face between their
18 costs and the market price remains the same, irrespective of the level of the retail price
19 charged by the ILEC. Hence, an ILEC could never expect to drive a competitor out of the
20 market by retail price reductions.

21 **Q. MR. BUCKALEW LISTS [AT 6] PRICE DISCRIMINATION AS A FORM OF**
22 **PRICING BEHAVIOR THAT REPRESENTS ABUSE OF MARKET POWER. DO**

1 **YOU AGREE?**

2 A. Not in the present context. §58-9-576(B)(5) of the Statute states that

3 [t]he LEC's shall set rates for all other services on a basis that does not
4 unreasonably discriminate between similarly situated customers; provided,
5 however, that all such rates are subject to a complaint process for *abuse of*
6 *market position* in accordance with guidelines to be adopted by the commission.

7 In this Docket, parties were asked to define "abuse of market position" as distinct from
8 "unreasonable discrimina[tion] between similarly situated customers."³

9 **Q. CONTEXT ASIDE, IS MR. BUCKALEW'S CLAIM [AT 6-7] THAT PRICE**
10 **DISCRIMINATION THAT REPRESENTS AN ABUSE OF MARKET POWER**
11 **"ARISES WHEN THE BUYERS OF THE SERVICE/PRODUCT HAVE**
12 **CONSIDERABLE DIFFERENCES IN THE PRICE ELASTICITY OF DEMAND**
13 **FOR THE PRODUCT/SERVICE, AND THESE CLASSES CAN BE IDENTIFIED**
14 **AND SEPARATED" ?**

15 A. No. Differences in price elasticities of demand and the ability to identify and separate
16 customers by their different elasticities of demand are necessary conditions for efficient
17 price discrimination to take place; they do *not* define anti-competitive price discrimination
18 that would represent an abuse of market position. The South Carolina Code is careful to
19 proscribe only "unreasonable" discrimination between "similarly-situated customers."
20 This distinction follows economic theory and U.S. antitrust law which, generally speaking,
21 find that price discrimination that expands demand for the product or service (by offering

³ Order No. 2002-679 in Docket No. 2002-234-C established a generic proceeding to define "abuse of market position."

different prices to customers with different willingness-to-pay or reservation prices) can increase economic welfare and make consumers better off.⁴

“Similarly-situated” customers are generally thought to be customers having similar tastes, location, size, availability of substitutes and income levels, so that the pricing behavior identified by Mr. Buckalew would not discriminate between similarly-situated customers. Thus, I would disagree with Mr. Buckalew’s implication that “differences between the classes (*sic*) taste, availability of substitutes or income level” would constitute an abuse of market position.

Q. MR. BUCKALEW IDENTIFIES PRODUCT BUNDLING AND TYING AS AN ABUSE OF MARKET POWER [AT 7-8]. DO YOU AGREE?

A. No, such marketing devices are common in competitive markets and are often proconsumer and procompetitive. Bundling is simply the offering of two or more products in fixed proportions, possibly at a discount, and there is nothing inherently anti-competitive in making such an offering.⁵ ILECs, competitive local exchange carriers (“CLECs”), and other telecommunications companies often pursue a “mixed bundling” strategy, in which component services are offered both in bundles and as stand-alone services. Those services that are not offered on a stand-alone basis are generally available competitively. In my Direct Testimony, I cited the FCC’s conclusion that “allowing all carriers to bundle

⁴ See, e.g., D.W. Carlton and J.M. Perloff, *Modern Industrial Organization*, Third Edition, New York: Addison-Wesley, 2002, at 289-291.

⁵ Carlton and Perloff, Chapter 10.

products and services is generally procompetitive and beneficial to consumers.”⁶

**Q. ARE SOME FORMS OF BUNDLING OR TYING ANTI-COMPETITIVE AND
COULD SUCH BEHAVIOR REPRESENT AN ABUSE OF MARKET POSITION?**

A. Yes. As described in my Direct Testimony [at 37], anti-competitive tying could occur if an ILEC were to tie the sale of a service for which it had market power to the sale of service supplied in competitive markets. For example, assume for the purposes of argument that an ILEC possessed market power in South Carolina’s residential local exchange markets. Then an example of anti-competitive tying would be if the ILEC required all residential basic exchange customers to also buy its long distance service. It would not be the case that the opposite form of packaging—where the ILEC only sold its long distance service to its own local exchange customers—would constitute anti-competitive tying, because the ILEC’s local exchange customers would have a choice of suppliers for long distance, even if they chose a competitor’s local exchange service. That is, the ILEC does not possess market power in the market for the tying product, so that consumers cannot be harmed in this example by the requirement that they purchase local service from their long distance supplier.

In antitrust law, the general rule of thumb is that to be illegal, tying requires, among other things, that the firm possess market power for the tying product and that the amount

⁶ FCC, *In the Matter of Policy and Rules Concerning the Interstate, Interexchange Marketplace; Implementation of Section 254(g) of the Communications Act of 1934, as amended; and 1998 Biennial Regulatory Review — Review of Customer Premises Equipment and Enhanced Services Unbundling Rules in the Interexchange, Exchange Access and Local Exchange Markets*, CC Docket Nos. 96-61 and 98-183, Report and Order (“FCC Bundling Order”), released March 30, 2001, ¶14.

1 of commerce involved be “substantial.”⁷

2 **Q. MR. BUCKALEW CITES [AT 7] CABLE BUNDLING AS AN EXAMPLE OF A**
3 **METHOD BY WHICH FIRMS WITH MARKET POWER INCREASE PROFITS**
4 **AND RETAIN MARKET POWER. DO YOU AGREE?**

5 A. Not necessarily. I agree that it is probably more profitable for cable companies to offer
6 HBO service as part of a bundle of channels rather than on a stand-alone basis. Why else
7 would they do it? However, cable companies do not necessarily possess market power in
8 the market for video programming (considering competition from satellite services and
9 cable overbuilds in some areas), and it could be prohibitively expensive for the cable
10 company to offer HBO on a stand-alone basis. This is the same reason that call waiting is
11 never offered as a standalone retail service but only in conjunction with basic local
12 exchange service.

13 **Q. MR. BUCKALEW CITES [AT 8] A DECISION BY QWEST LONG DISTANCE TO**
14 **OFFER LONG DISTANCE SERVICES ONLY TO QWEST CORPORATION'S**
15 **LOCAL EXCHANGE CUSTOMERS AS AN EXAMPLE OF TYING BY A FIRM**
16 **WITH MARKET POWER. IS THIS A VALID EXAMPLE OF ANTI-**
17 **COMPETITIVE TYING?**

18 A. No. In fact, in characterizing this as an example of tying by a firm with market power, Mr.
19 Buckalew has the concept of anti-competitive tying exactly *backwards*. Anti-competitive

⁷ See, e.g., W.K. Viscusi, J.M. Vernon and J.E. Harrington, Jr., *Economics of Regulation and Antitrust*, Second Edition, Cambridge: The MIT Press, 1995, at 260.

1 tying occurs when a firm forces customers of its monopoly service to also purchase a
2 completely separate, second service. That is, the firm denies customers the ability to
3 purchase the separate, second service from sources, and at prices, that the customers
4 consider to be in their best interests.

5 The situation described by Mr. Buckalew is exactly the opposite. Qwest
6 Communications International (“Qwest”) operates Qwest Corporation (an ILEC) through
7 which it sells basic local exchange services and Qwest Long Distance Corporation (an
8 affiliate) through which it sells long distance services. While Qwest Corporation may
9 arguably still retain some degree of market power in some basic local exchange markets,
10 Qwest Long Distance does not possess market power—or any prospect of attaining market
11 power—in the long distance market. According to Mr. Buckalew, under current company
12 policy, Qwest Long Distance sells its long distance services only to Qwest Corporation’s
13 local exchange customers; however, there is *no* requirement that customers of Qwest
14 Corporation’s basic local exchange services *must* also purchase Qwest Long Distance’s
15 long distance services. That is, there is simply no tying of the sale of a service for which
16 Qwest Corporation may possess market power to the purchase of a completely separate,
17 second service. Mr. Buckalew might conceivably have a point if Qwest Corporation
18 refused to sell basic local exchange services to customers who bought long distance service
19 from any source other than Qwest Long Distance, but that is the opposite of the behavior of
20 which Mr. Buckalew complains.

21 Moreover, there are valid business reasons why a telecommunications firm might
22 offer particular services only to its basic local exchange customers. Evidence of this is the

fact that many firms other than ILECs do not offer certain services on a standalone basis. Retail vertical services (call forwarding, call waiting, etc.) are never offered on a standalone basis, presumably because the network costs of provisioning and billing such a service would be prohibitive for any firm other than the one providing local switching to the customer.

Q. PLEASE SUMMARIZE YOUR REACTION TO MR. BUCKALEW'S DISCUSSION OF "ABUSE OF MARKET POSITION."

A. Mr. Buckalew doesn't propose a definition of "abuse of market position" but rather gives examples of things that he believes constitute such abuse. I disagree with many of the examples. Pricing too high is an exercise of market power, not an abuse, and it is constrained by local competition, ease of entry and by the price regulation plan. Exclusionary pricing (pricing below cost) could theoretically be an abuse of market position but is unlikely to be profitable because, among other things, the presence of resale means that competitors could never be driven from the market while the absence of entry barriers means that profits lost through exclusionary pricing could never be recouped.⁸

⁸ Mr. Buckalew presents a confusing discussion of exclusionary pricing. While there is consensus among most witnesses in this proceeding that *predatory* pricing (which starts with the incumbent firm dropping its price below the competitive level, i.e., typically below incremental cost) is an anti-competitive concern when a firm has market power, Mr. Buckalew introduces *limit* pricing as a possible exclusionary strategy. Limit pricing is not necessarily confined to a firm pricing below its costs; rather, it is pricing below a *competitor's* costs. Thus, limit pricing may deter entry by *new* firms but it (1) need not force *existing* competitors from the market (only *limit* the number of competitors) and (2) may only deter entry by *less* efficient competitors. In addition, the success of limit pricing may depend on tacit collusion among existing firms who must be willing to expand output and to drive down the market price from profit-maximizing levels to the point that new higher-cost entrants are left with no prospects of making profits and, therefore, with no incentive to enter the market. Thus, even if limit pricing may ultimately deter new entry, it does not necessarily hurt customers or reduce overall social welfare. See Carlton and Perloff, *op cit.*, at 343-347.

1 Exclusionary pricing is also ruled out for BellSouth by the Commission's incremental cost
2 price floor.

3 While some forms of tying can be anti-competitive and bad for consumers, not all
4 are. Economic theory, as echoed by the FCC, emphasizes the proconsumer and
5 procompetitive role of bundling and packaging of products, and it is only in the case that
6 the firm possesses market power in the market for the tying product that consumers could
7 be harmed by the practice.

8 **B. The Inflation-Based Index**

9 **Q. MR. BUCKALEW DESCRIBES [AT 9, LINES 9-16] AN INFLATION-BASED**
10 **INDEX. IS THIS DESCRIPTION ACCURATE?**

11 A. Generally speaking, yes. In economics, an inflation-based index would be an index that
12 begins at 100 (for example) at the beginning of the plan and changes each year by some
13 measure of the change in U.S. output prices. If the inflation measure selected increases
14 each year at a 3 percent rate, for example, the index (called the "price cap index" or "PCI")
15 would equal 103 at the beginning of the second year, 106.1 at the beginning of the third
16 year, etc. In addition, an index of the prices actually charged for basic local exchange
17 services would be calculated and set equal to 100 (say) at the beginning of the plan. This
18 index is frequently called the "actual Price Index" or "API". The force of the inflation-
19 based index would then be that an index of the actual prices charged for basic local
20 exchange services could not exceed the inflation-based index: i.e., that in every year, the
21 ILEC would be free to change prices of basic local exchange services as long as the API
22 never exceeds the PCI.

Mr. Buckalew is also correct [at 11-12] that the FCC price cap plan originally contained three elements, but that description of those elements is now outdated:

1. an inflation-based index (measured by the Bureau of Economic Analysis' gross domestic product price index or GDP-PI,⁹
2. a productivity factor, representing the difference between the growth in productivity between the telecommunications industry and U.S. industry as a whole,¹⁰ and
3. exogenous cost changes, representing changes in costs specific to the telecommunications industry (i.e., not part of GDP-PI) and outside the control of the firm.

Of these elements, only the first constitutes an inflation-based index. Hence, if the South Carolina Legislature had the FCC price cap plan in mind when it drafted §58-9-576 of the Statute, it would have meant only the first component of that plan by the phrase "inflation-based index."

Q. WHAT WAS THE ROLE OF THE FCC PRICE CAP PLAN WHEN IT WAS IMPLEMENTED IN 1991?

A. The FCC's price cap plan was a transitional device to regulate prices of interstate access services in a more efficient manner than rate-base rate of return regulation until competitive forces in the market were sufficient to constrain LEC prices. In 1990, there was negligible competition for local exchange customers in most areas of the country. The Telecommunications Act of 1996 had not yet opened up the ILECs' networks for competitors to use, and the penetration of wireless and cable telephony was much smaller

⁹ Mr. Buckalew states that the FCC's inflation measure is GNP-PI (the gross *national* product price index). The FCC switched from use of GNP-PI to the GDP-PI in its *First Report and Order* CC Docket No. 94-1, released April 7, 1995.

¹⁰ As discussed below, the X factor in the FCC price cap plan since May 2000 is not a productivity factor but rather a factor calculated to reduce access charges to a specified level at the end of the price cap plan.

1 than it is today. The FCC's main policy problem in the early 1990s was to reduce the level
2 of carrier access charges for reasons unrelated to competition or to productivity growth.
3 Carrier access charges were set in 1984 at levels that attempted to replicate the historical
4 contribution of long distance service to local exchange services, and the subsequent history
5 of interstate carrier access charges represents the FCC's efforts to reduce that contribution
6 without compromising the financial viability of local telephone service.

7 **Q. MR. BUCKALEW CITES [AT 12-13] AN FCC COMMISSIONER IN SUPPORT OF**
8 **THE PROPOSITION THAT THE FCC X FACTOR OF 6.5 PERCENT**
9 **REPRESENTS A RELIABLE MEASURE OF LEC POTENTIAL PRODUCTIVITY**
10 **GAINS. IS THIS AN ACCURATE CHARACTERIZATION OF THE FCC PRICE**
11 **CAP PLAN?**

12 **A.** No, Mr. Buckalew is describing an outdated plan. While, the *current* FCC price cap plan
13 for LEC interstate access charges is of the same form (Inflation – X +/- exogenous
14 changes) as the earlier plan cited by Mr. Buckalew, the X in the price cap plan is different.
15 In particular, it is no longer based on any estimate of potential LEC productivity growth
16 relative to the economy; rather X is an explicit device to reduce carrier access charges to
17 prespecified levels by the end of the plan. As the Commission stated in its CALLS Order:

18 160. During the five-year term of the CALLS Proposal, the X-factor as adopted
19 herein will not be a productivity factor as it has been in past price cap
20 formulas. Instead, the X-factor is now a transitional mechanism to lower
21 access charges to target rates for switched access, and to lower rates for a
22 specified time period for special access. Although the X-factor under the
23 CALLS Proposal will not be tied to price cap LEC productivity, it will

1 lower access charges over the term of the proposal.¹¹

2 Thus, one should not infer from the 6.5 percent X factor in the current FCC price cap plan
3 that the FCC determined that unit costs for telecommunications companies could be
4 expected to fall (relative to inflation) by 6.5 percent per year. Rather, real rate reductions
5 of 6.5 percent per year for carrier access charges was the rate necessary to bring prices
6 down to target levels over the five year term of the plan.

7 **Q. MR. BUCKALEW ASSERTS [AT 14-15] THAT DR. SPEARMAN'S INFLATION**
8 **INDEX MUST BE TAKEN "ONE STEP FURTHER" TO INCLUDE A**
9 **PRODUCTIVITY FACTOR BECAUSE "IT IS WELL RECOGNIZED THAT**
10 **PRODUCTIVITY IN THE TELECOMMUNICATIONS INDUSTRY HAS**
11 **OUTPACED GENERAL PRODUCTIVITY." DO YOU AGREE?**

12 **A.** No. It is true that most studies of *historical* productivity growth for local exchange
13 telecommunications firms show a long run growth rate about 2 percent per year greater
14 than for the U.S. economy as a whole. This fact is reflected in the average level of X in
15 state price cap plans, which has fallen from just under 3 percent in 1996 to about 2.66
16 percent in 2001.¹² The implication of this average and the recent average inflation rate of
17 about 2 percent is that retail prices subject to price caps are expected to decline on the

¹¹ Sixth Report and Order In CC Docket Nos. 96-262 and 94-1, Report and Order In CC Docket No. 99-249, and Eleventh Report and Order In CC Docket No. 96-45, Released May 31, 2000, ¶160.

¹² T. Tardiff, and W. Taylor (1996) "Revising Price Caps: the Next Generation of Incentive Regulation Plans," in Crew, Michael E., ed., *Pricing and Regulatory Innovations Under Increasing Competition*, Kluwer: Boston.: 27. W. Taylor, Testimony before the Maine Public Utilities Commission, Docket No. 99-851, January 8, 2001. Since that time a few states have discontinued or changed indexed price caps, e.g., Massachusetts, Rhode Island, New Jersey, and Kansas. The changes for these states has almost no effect on the average "X factor."

1 order of one percent or less annually. Examination of recent trends in LEC output growth
2 and prices indicates that the currently adopted “X factors” are, if anything, overly
3 ambitious expectations for the prospects of further LEC retail price declines.

4 In an industry with scale and scope economies, such as telecommunications, higher
5 output growth is an important source of higher productivity growth. Because of the health
6 of the economy, in general, and the telecommunication industry, in particular, in the latter
7 part of the 1990s, output did in fact grow. For example, between the end of 1995 and 2000
8 the number of telephone lines provided by the larger LECs increased by about 16 percent,
9 from about 120 million to about 140 million, fueled in part by second line growth to access
10 the Internet.¹³ However, in 2001, these LECs lost 5.5 percent of their lines, which was
11 almost enough to wipe out all growth they had experienced since 1997.¹⁴

12 In fact, output growth in general (not just access lines) has slowed in recent years.
13 To illustrate this phenomenon, I use part of the FCC’s total factor productivity (TFP)
14 methodology,¹⁵ which combines the several categories of output—switched access lines,
15 special access lines, local, intrastate, and interstate calling volumes—into a single quantity
16 index. This index shows that RBOC output dropped by about 2 percent in 2001.¹⁶ The

¹³ In the data that follows in this section, the larger LECs are the territories served by the original Regional Bell Operating Companies (“RBOCs”). For examples, for Verizon, these figures account for the territories in the old NYNEX and Bell Atlantic territories, but not the territories served by the old GTE. We report these data to be consistent with the methodology the FCC formerly used when measuring productivity for its price cap plan.

¹⁴ Preliminary data recently available from the FCC shows that the LECs continued to lose lines in 2002. The large LECs (excluding Qwest, which has not yet reported 2002 results) lost an additional 5.5 percent of their lines.

¹⁵ FCC, *Price Cap Performance Review for Local Exchange Carriers* (CC Docket No. 94-1) and *Access Charge Reform* (CC Docket No. 96-262), Fourth Report and Order, CC Docket No. 94-1 and Second Report and Order, CC Docket No. 96-262, released May 21, 1997, Appendix D.

¹⁶ During 2002, the RBOCs continued to lose output at even a faster rate. The preliminary data for 2002 (which as
(continued...)

telecommunications market since its inception has been characterized by growth in output.

These recent reductions in the average output of local exchange carriers are unprecedented.

It is also informative to compare output growth for the first three years of the period following the passage of the Telecommunications with the last three available years. The following table presents these results.

Table 1: Annual Growth in RBOC Output

Year	Output Quantity Change
1996	6.21%
1997	4.84%
1998	4.22%
1999	4.77%
2000	0.65%
2001	-1.79%
1996-1998	5.09%
1999-2001	1.21%

The table shows that annual output growth was on the order of five to six percent in the banner years from 1996-1998 and then dropped substantially in the most recent three years.

Finally, as expected, the slower output growth translates into slower reduction in real prices, i.e., a narrowing of the gap between output price changes for ILECs and for the overall economy.¹⁷ In particular, as shown in Table 2, while the annual rate of inflation (as

(...continued)

we described above excludes Qwest) shows that RBOC output declined by an additional 4 percent.

¹⁷ The RBOC output price index is total RBOC revenue normalized by the output quantity index presented in the previous table. The difference between this index and GDP-PI is a measure of the achieved differential between industry and economy-wide output price growth and, as such, is the historical analog to an average industry-wide "X factor."

measured by GDP-PI) increased by about 0.3 percent in the latest three years, the telephone industry output price trend increased by 1.7 percent (from -1.2 percent to 0.5 percent). As a result, the difference in the rate of output price changes decreased by one-half, to about 1.5 percent.

Table 2: Comparison of RBOC and Economy wide Output Price Changes

Year	RBOCs' Output Price	GDP-PI	Difference
1996	-1.25%	1.92%	3.17%
1997	-2.47%	1.93%	4.40%
1998	0.06%	1.22%	1.16%
1999	-0.32%	1.43%	1.75%
2000	0.85%	2.08%	1.23%
2001	0.97%	2.34%	1.37%
1996-1998	-1.22%	1.69%	2.91%
1999-2001	0.50%	1.95%	1.45%

Thus, the rate of productivity growth (as passed through to customers in the form of lower prices) has slowed in the current environment, and expectations formed in the mid-1990s regarding real price decreases in the telecommunications industry may no longer be appropriate.¹⁸

Q. WHAT ARE CURRENT PROSPECTS FOR PRODUCTIVITY GROWTH THROUGH DIFFUSION OF NEW TECHNOLOGY CAUSED BY INCREASES IN NETWORK INVESTMENT?

A. Reduced investment in the telecommunications infrastructure means that this source of past

¹⁸ Again, the preliminary data show a continuation of the recent trend. Output prices for the RBOCs (excluding Qwest) decreased by about 0.8 percent in 2002, compared to an increase in GDP-PI of about 1.1 percent, (continued...)

productivity growth will not operate at past levels in the future. As Chairman Powell of the FCC said

“Few are prospering. Few are growing. Few are spending. Few are investing. The status quo is certain death and can no longer be considered a viable option”.¹⁹

Analyst estimates of industry investment show reductions in capital investment, reductions which will impede future productivity growth of the industry. Credit Suisse First Boston²⁰ published the following estimates of industry capital spending by segment:

Table 3: Telecommunications Capital Spending

(\$) in millions	1999A	2000A	2001A	2002A	2003E
ILECs	\$34,020	\$40,497	\$38,022	\$21,200	\$19,400
CLECs	\$5,169	\$8,540	\$4,451	\$1,250	\$600
IXCs	\$28,522	\$41,431	\$30,389	\$9,300	\$8,900
ISPs	\$2,146	\$4,797	\$2,009	\$700	\$600
Cable Companies	\$12,595	\$17,592	\$16,983	\$14,400	\$12,000
U.S. Total	\$82,454	\$112,857	\$91,854	\$46,850	\$41,500
Annual Growth	17.3%	36.9%	-18.6%	-49.0%	-11.4%

Reduced capital investment means that new technology will diffuse more slowly through the telecommunications network, and, all else equal, productivity growth will be slower than it would be if capital spending continued at previous rates.

Q. IS IT NECESSARY TO HAVE A PRODUCTIVITY FACTOR IN A PRICE CAP

(...continued)

producing a differential of about 1.9 percent.

¹⁹ FCC Chairman Michael Powell, Goldman Sachs Communicopia XI Conference speech, New York City, October 2, 2002.

²⁰ Credit Suisse First Boston, March 14, 2003.

**PLAN TO ENSURE THAT CUSTOMERS RECEIVE THE BENEFITS OF
PRODUCTIVITY GROWTH?**

A. No. The South Carolina local exchange market is irreversibly open to competition, and competition is strong and widespread. Competitive forces are sufficient to ensure that prices cannot be held above the competitive market level and thus that productivity gains will be passed through to customers in the form of prices that are lower than they would be had there not been productivity gains.

**Q. UNDER THE SOUTH CAROLINA CODE, WHAT SERVICES WILL BE
SUBJECT TO THE INFLATION-BASED INDEX?**

A. According to §58-9-576(B)(3) of the South Carolina Code, prices of flat-rated residential and single-line business basic local exchange services are subject to the inflation-based index.

**Q. WHAT IS THE LIKELY RELATIONSHIP BETWEEN PRICES OF THE
RESIDENTIAL BASIC LOCAL EXCHANGE SERVICES AND THEIR
COMPETITIVE MARKET PRICES?**

A. Prices for many residential basic local exchange services are currently below any reasonable estimate of their competitive market level. Based on cost studies conducted for the South Carolina Universal Service Fund ("USF") Docket, residential basic local exchange rates are far below forward-looking costs in many South Carolina communities, and competitive market prices for these services would obviously be significantly higher than their current levels. In Table 4 below, I compare the basic residential rate (including

the \$6.50 federal subscriber line charge) with the cost per line determined in the USF proceeding. The third column shows the number of *years* of price increases necessary before the residential basic local exchange price would equal the cost of the service, assuming that the service cost remains the same in nominal terms. Thus, under a price cap set using an inflation-based index (and assuming 2 percent annual inflation), it would take between 57 and 23 years for residential basic local exchange rates to rise to the level of their cost.

Q. SUPPOSE THE COMMISSION ADOPTS MR. BUCKALEW'S RECOMMENDATION THAT THE PRICE CAP INDEX INCLUDE A PRODUCTIVITY FACTOR OF 2-3 PERCENT. WHAT WOULD BE THE EFFECT ON RESIDENTIAL BASIC LOCAL EXCHANGE RATES IN TABLE 4?

A. The assumption of a 2-3 percent productivity factor implies that Mr. Buckalew believes that unit costs (cost per loop) for residential basic local exchange service will fall (relative to inflation) at a 2-3 percent rate each year. If this assumption is correct, and inflation averages somewhere between 2 and 3 percent, then loop costs in Table 4 would remain roughly constant in nominal terms. In this case, it would take between 8 and 57 years of price increases at the rate of inflation for prices to equal costs, as shown in the third column of Table 4.²¹ Alternatively, if USF costs per line grow roughly at the rate of inflation, then the gap between the residential basic local exchange rate and cost would expand (assuming the federal SLC remained at \$6.50) rather than close.

²¹ The calculation assumes that the SLC remains at \$6.50 while the 1FR rate grows at the rate of inflation. Nominal (continued...)

Table 4: South Carolina Rates and Costs

Community	Basic Residential Rate 1FR	USF Cost Per Line	YEARS TO EQUALITY Constant Nominal Cost 2% Inflation	YEARS TO EQUALITY Nominal Cost Falling At 2% 2% Inflation
Camden	\$14.60	\$51.46	57	26
Anderson	\$15.95	\$37.09	33	15
Summerville	\$16.40	\$34.65	27	12
Florence	\$15.95	\$31.56	23	10
Columbia-St. Andrews	\$16.40	\$25.59	8	4
Federal SLC	\$6.50			

Even if ILEC productivity growth were twice as high as that assumed by Mr. Buckalew—nominal costs falling at 2% per year, which corresponds to an X of 4 percent per year—it would still take between 4 and 26 years for residential basic local exchange prices to rise to the level of costs in these South Carolina communities.

Q. MR. BUCKALEW DISCUSSES OTHER STATE PRICE CAP PLANS WHICH USE A PRODUCTIVITY FACTOR IN ADDITION TO AN INFLATION-BASED INDEX. DO RECENT PRICE CAP PLANS IN OTHER STATES UNIFORMLY INCLUDE A PRODUCTIVITY FACTOR IN ADDITION TO AN INFLATION-BASED INDEX?

A. No. Recent changes to state price cap plans tend to reduce or eliminate productivity offsets in recognition of the fact that competition can control prices of at least some

(...continued)

costs either remain constant (column 3) or fall at 2 percent per year (column 4).

telecommunications services more efficiently than regulation. For example, recent updates to price cap plans in Maine, Massachusetts, Rhode Island and New Jersey have taken the form of eliminating price regulation entirely for the bulk of telecommunications services, leaving restrictions only on basic exchange rates. In particular, none of these states currently operate under a price cap plan of the form recommended by Mr. Buckalew, even for residential basic local exchange services.

The reasons given by these Commissions for their decisions vary, but all point to the increase in competitive forces in local exchange markets brought about by the 1996 Telecommunications Act. Indeed, when ILECs are required to sell unbundled network elements at rates based on total element long run incremental cost ("TELRIC"), any attempt to increase retail prices above current levels expands the margin available to competitors. In turn, a higher margin makes it easier for firms to enter and for incumbent competitors to reduce their retail prices to increase their share of the market.

Q. PLEASE SUMMARIZE YOUR REACTION TO MR. BUCKALEW'S DEFINITION OF "INFLATION-BASED INDEX."

A. Mr. Buckalew insists upon adding a productivity factor to the inflation-based index represented by GDP-PI. His claim that the FCC price cap plan currently contains a productivity factor in addition to an inflation-based index is incorrect: the factor is explicitly *not* a productivity factor but an adjustment mechanism to reduce access charges to a designated target level by the end of the plan.

Mr. Buckalew is correct that productivity growth for the telecommunications industry outstripped that of U.S. industry as a whole by about 2 percent per year in the past.

1 All indications suggest, however, that productivity growth for the telecommunications
2 sector will slow in the future, as output growth has turned negative and as LECs of all
3 kinds have reduced investment to serve decreasing demand for wireline services.

4 Finally, Mr. Buckalew's concerns for passing through expected productivity growth
5 in lower prices for residential basic local exchange services is misplaced in South Carolina.
6 Economic efficiency and efficient competition would be better served if residential basic
7 local exchange prices were permitted to rise to competitive market rates. Under an
8 inflation-based index, it would take many years for residential basic local exchange prices
9 to rise to cost, let alone competitive market levels, even assuming that unit costs fell
10 relative to inflation. Under an inflation-based index with inflation averaging (say) two
11 percent and telecom unit costs falling relative to inflation at 2 percent, Mr. Buckalew's
12 recommended formula would add a productivity factor (an X of 2 percent for example).
13 The result would merely maintain the current gap between residential basic local exchange
14 prices and costs. Under such a plan, the gap between costs and prices would never be
15 closed.

16 **IV. RESPONSE TO MR. DARNELL'S DIRECT TESTIMONY**

17 **Q. MR. DARNELL ATTEMPTS TO DISTINGUISH [AT 3-4] BETWEEN MARKET**
18 **POSITION AND MARKET POWER. HE BELIEVES ADOPTING A MARKET**
19 **POWER INTERPRETATION OF THE PHRASE WOULD BE REDUNDANT**
20 **WITH ANTITRUST LAWS AND WOULD REQUIRE THE COMMISSION TO**
21 **UNDERTAKE ANALYSES FOR WHICH IT IS NOT PREPARED. DO YOU**
22 **AGREE?**

1 A. No. Interpretation of “market position” as “market power” is sensible and enables the
2 Commission to rely on a large economic and judicial literature regarding what abuse of
3 such a thing might mean. Use of that definition greatly simplifies the Commission’s tasks
4 under the statute. Moreover, without such an interpretation, the Commission would not
5 have the guidance it explicitly sought when it opened this Docket.²² If the term “market
6 position” has “no need to be further defined” then we are all wasting our time in this
7 proceeding.

8 Use of “market power” would not make this section of the South Carolina Code
9 redundant with the antitrust laws. A Commission complaint proceeding and a Section 2
10 (Sherman Act) antitrust complaint in federal court would be different in terms of speed,
11 cost to the parties and market-specific expertise of the Commission compared to a court.

12 Finally, the suggested types of abuse in Mr. Darnell’s testimony [at 4-5]— abuse of
13 physical location in a market, abuse of leadership rank in a market, abuse of a particular set
14 of circumstances, abuse of standing or level of importance, or abuse of a strategic area of
15 business such as in a growing or emerging market—are too vague to implement in any
16 clear set of directions to the Commission or to the affected ILECs. In order for the
17 Commission to meet Mr. Darnell’s recommendation of expeditious resolution of
18 complaints (with which I agree in principle), the Commission must be able to rely on
19 reasonably clear and specific standards of behavior that LECs must meet. Associating

²² “We believe that, before we can continue to process complaints such as the Consumer Advocate’s, we are going to have to establish a definition for “abuse of market position” and criteria for determining whether various behaviors by a Company constitute ‘abuse of market position.’” (Order No. 2002-679, Docket No. 2002-234-C, September 23, 2002, at 4.

1 these standards with antitrust-oriented abuse of market power rules greatly simplifies the
2 Commission's task and provides ILECs with a reasonably clear standard of behavior with
3 which they would be expected to comply.

4 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

5 A. Yes.

STATE OF SOUTH CAROLINA)
) CERTIFICATE OF SERVICE
COUNTY OF RICHLAND)

The undersigned, Jeanette B. Mattison, hereby certifies that she is employed by the Legal Department for BellSouth Telecommunications, Inc. ("BellSouth") and that she has caused BellSouth Telecommunications, Inc.'s Responsive Testimony of William E. Taylor, Ph.D. in Docket No. 2002-367-C and 2002-408-C to be served upon the following this July 30, 2003:

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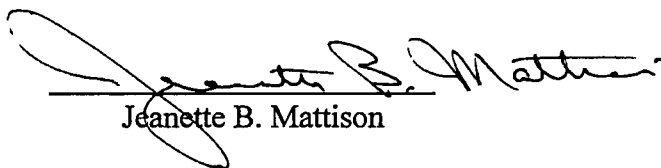
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